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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,290	12/10/2001	Kyoung Il Min	404302000800	2339

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MORRISON & FOERSTER LLP
755 PAGE MILL RD
PALO ALTO, CA 94304-1018

EXAMINER	
DI GRAZIO, JEANNE A	

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/014,290	MIN ET AL.	
	Examiner	Art Unit	
	Jeanne A. Di Grazio	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *RCE July 21, 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) *10-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *July 21, 2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

Priority to Korean Application No. 2001-0024268 (May 4, 2001) is claimed.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74,'453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on July 21, 2004 has been entered.

Election/Restrictions

Applicant's election with traverse of Species I (claims 1-9 readable thereon) in the reply filed on February 10, 2005 is acknowledged. The traversal is on the ground(s) that "the search and examination of Species II with Species I does not raise serious additional burden on the Examiner ... In fact, the Office has already examined the entirety of the claims and found them allowable prior to the RCE filing." (Remarks at page 2).

This is not found persuasive because search and examination is not limited to the Examiner's own search and examination of the claimed subject matter. Applicant has submitted a voluminous IDS – to include 395 documents for review and consideration by the Examiner

bringing the 1449 form to 15 pages. Many of these documents are foreign documents and a few of these documents are scientific papers and the like. Search and consideration means search and consideration of the Examiner's new search *plus* a search and consideration through the entire 395-document IDS. The Examiner also believes that the Examiner has identified species as noted.

The requirement is still deemed proper and is therefore made **FINAL**.

Claims 10-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on February 10, 2005.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent 5,446,290 (to Fujieda et al.)(as provided by Applicant per IDS of July 21, 2004).

As to claim 1, Fujieda discloses with reference to Figures 5A and 5B, a liquid crystal light valve (14) and image sensor (12) and optical element (13) that are all arranged on the same plane (best seen in Figure 5B)(Applicant's "an LCD part and a light-sensing fingerprint capture sensor arranged on the same plane").

Please note that Applicant's limitation "the LCD part and the light-sensing fingerprint capture sensor being simultaneously arranged through the same manufacturing process" is a product-by-process limitation. Such limitation is not accorded patentable weight.

"Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." MPEP 2113.

Fujieda discloses that the planar light source (11) can be a backlight module for a liquid crystal display element (Column 4, Lines 19-21)(referring to Figure 4; however, Figure 4 applies to any embodiments)(Column 4, Lines 9-11)(Applicant's "a backlight commonly used for the LCD part and the fingerprint capture sensor as a light source").

As to claim 2, Figures 5A and 5B show that the image sensor (12) and optical element (13) is smaller than the liquid crystal light valve (14)(Applicant's "wherein a region in which the fingerprint capture sensor is formed is smaller than a region in which the LCD part is formed").

Please note that Applicant's limitation "and the fingerprint capture sensor obtains a fingerprint image by a one-dimensional line scan method" is a product-by-process limitation. Such limitation is not accorded patentable weight.

"Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the

same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." MPEP 2113.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 5,446,290 (to Fujieda et al.)(as provided by Applicant per IDS of July 21, 2004) in view of United States Patent 6,496,240 B1 (to Zhang et al.).

As to claims 3 and 4, Fujieda does not appear to explicitly specify that a driving unit for driving the LCD part and a driving unit for driving the fingerprint capture sensor are separated and or integrated into one driving unit.

Zhang teaches and discloses a liquid crystal display apparatus containing an image sensor and a process for producing the same in which Figure 4A shows a plan view wherein driving units (111) for the LCD part (display part 110) and 400 for the sensor part (120) appear on the same substrate (integrated into one complete unit) but are separated. The driving units are separated because the sensor part reacts to external heat and as such is kept separate from a heat-generating circuit like a peripheral driving circuit at a position less affected by heat (Column 2, Lines 58-62).

It would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Fujieda in view of Zhang so that the sensor would not be affected by heat.

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 5,446,290 (to Fujieda et al.)(as provided by Applicant per IDS of July 21, 2004) in view of United States Patent 5,910,829 (to Shimada et al.).

As to claim 5, with regard to Figure 4, Fujieda shows a planar light source (11) that can be a backlight module for a liquid crystal display element (Column 4, Lines 19-21), a thin film transistor panel (TFT) panel (22) attached to a top of the backlight (11), the TFT panel including an LCD part (Figure 5B liquid crystal light valve 14) formed in a region of the TFT panel (22) and an image sensor (12) and optical element (13) formed in a remaining region of the TFT panel (Figure 5B)(elements 12 and 13 are offset from element 14) and a liquid crystal element

(14) attached only to a top of the LCD part of the TFT panel (elements 12 and 13 are offset from element 14).

Fujieda does not appear to explicitly specify a color filter attached only to a top of the liquid crystal element.

However, as seen in United States Patent 5,910,829 (to Shimada et al.) a color filter is conventionally included in a color liquid crystal display to provide a color display.

Therefore, it would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Fujieda in view of Shimada for a color display.

As to claim 6, Fujieda Figure 5B shows that the light valave (14) and elements (12 and 13) are flush with each other.

As to claim 7, Figures 5A and 5B show that the image sensor (12) and optical element (13) is smaller than the liquid crystal light valve (14)(Applicant's "wherein a region in which the fingerprint capture sensor is formed is smaller than a region in which the LCD part is formed").

Please note that Applicant's limitation "and the fingerprint capture part obtains a fingerprint image by a one-dimensional line scan method" is a product-by-process limitation. Such limitation is not accorded patentable weight.

"Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." MPEP 2113.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 5,446,290 (to Fujieda et al.)(as provided by Applicant per IDS of July 21, 2004) in view of United States Patent 5,910,829 (to Shimada et al.) and further in view of United States Patent 6,496,240 B1 (to Zhang et al.).

As to claims 8 and 9, Fujieda does not appear to explicitly specify that a driving unit for driving the LCD part and a driving unit for driving the fingerprint capture sensor are separated and or integrated into one driving unit.

Zhang teaches and discloses a liquid crystal display apparatus containing an image sensor and a process for producing the same in which Figure 4A shows a plan view wherein driving units (111) for the LCD part (display part 110) and 400 for the sensor part (120) appear on the same substrate (integrated into one complete unit) but are separated. The driving units are separated because the sensor part reacts to external heat and as such is kept separate from a heat-generating circuit like a peripheral driving circuit at a position less affected by heat (Column 2, Lines 58-62).

It would have been obvious to one of ordinary skill in the art of liquid crystals at the time the invention was made to modify Fujieda in view of Zhang so that the sensor would not be affected by heat.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeanne A. Di Grazio whose telephone number is (571)272-2289. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim, can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeanne Andrea Di Grazio
Patent Examiner
Art Unit 2871

JDG

ROBERT H. KIM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800